

Having therefore shewn the reason of the motion of any float towards the sides, the reason of the incursion of any two floating bodies will easily appear: For the rising of the water against the sides of either of them, is an Argument sufficient, to shew the pressure of the Air to be there less, then it is further from it, where it is not so much elevated; and therefore the reason of the motion of the other toward it, will be the same as towards the side of the Glas; only here from the same reason, they are mutually moved toward each other, whereas the side of the Glas in the former remains fixt. If also you gently fill the Jar so full with water, that the water is *protuberant* above the sides, the same piece of Cork that before did hasten towards the sides, does now fly from it as fast towards the middle of the Superficies; the reason of which will be found no other then this, that the pressure of the Air is stronger against the sides of the Superficies G and H, then against the middle I; for since, as I shewed before, the Principle of congruity would make the terminating Surface Spherical, and that the flattening of the Surface in the middle is from the abatement of the waters pressure outwards, by the contrary endeavour of its gravity; it follows that the pressure in the middle must be less then on the sides; and therefore the consecution will be the same as in the former. It is very odd to one that considers not the reason of it, to see two floating bodies of wood to approach each other, as though they were indued with some magnetical vigour; which brings into my mind what I formerly tried with a piece of Cork or such like body, which I so ordered, that by putting a little stick into the same water, one part of the said Cork would approach and make toward the stick, whereas another would discede and fly away, nay it would have a kind of verticity, so as that if the *Aequator* (as I may so speak) of the Cork were placed towards the stick, if let alone, it would instantly turn its appropriate Pole toward it, and then run a-tilt at it; and this was done only by taking a dry Cork, and wetting one side of it with one small stroak; for by this means gently putting it upon the water, it would depress the superficies on every side of it that was dry, and therefore the greatest pressure of the Air, being near those sides caused it either to chase away, or else to fly off from any other floating body, whereas that side only, against which the water ascended, was thereby able to attract.

It remains only, that I should determine how high the Water or other Liquor may by this means be raised in a smaller Pipe above the Superficies of that without it, and at what height it may be sustained: But to determine this, will be exceeding difficult, unless I could certainly know how much of the Airs pressure is taken off by the smallness of such and such a Pipe, and whether it may be wholly taken off, that is, whether there can be a hole or pore so small, into which Air could not at all enter, though water might with its whole force; for were there such, 'tis manifest, that the water might rise in it to some five or six and thirty English Foot high. I know not whether the capillary Pipes in the bodies of small Trees, which we call their *Microscopical pores*, may not be such; and whether the congruity of the sides of the Pore may not yet draw the juyce even

even higher then the Air was able by its bare pressure to raise it: For, Congruity is a principle that not only unites and holds a body joyned to it, but, which is more, attracts and draws a body that is very near it, and holds it above its usual height.

And this is obvious even in a drop of water suspended under any Similar or Congruous body: For, besides the ambient pressure that helps to keep it sustein'd, there is the Congruity of the bodies that are contiguous. This is yet more evident in Tenacious and Glutinous bodies; such as Gumous Liquors, Syrups, Pitch, and Rosin melted, &c. Tar, Turpentine, Balsom, Bird-lime, &c. for there it is evident, that the Parts of the tenacious body, as I may so call it, do stick and adhere so closely together, that though drawn out into long and very slender Cylinders, yet they will not easily relinquish one another; and this, though the bodies be *aliquatenus* fluid, and in motion by one another; which, to such as consider a fluid body only as its parts are in a confused irregular motion, without taking in also the congruity of the parts one among another, and incongruity to some other bodies, does appear not a little strange. So that besides the incongruity of the ambient fluid to it, we are to consider also the congruity of the parts of the contain'd fluid one with another.

And this Congruity (that I may here a little further explain it) is both a Tenacious and an Attractive power; for the Congruity, in the Vibrative motions, may be the cause of all kind of attraction, not only Electrical, but Magnetical also, and therefore it may be also of Tenacity and Glutinousness. For, from a perfect congruity of the motions of two distant bodies, the intermediate fluid particles are separated and driven away from between them, and thereby those congruous bodies are, by the incompassing mediums, compell'd and forced neerer together; wherefore that attractiveness must needs be stronger, when, by an immediate contact, they are forc'd to be exactly the same: As I shew more at large in my *Theory of the Magnet*. And this hints to me the reason of the suspension of the *Mercury* many inches, nay many feet, above the usual station of 30 inches. For the parts of *Quick-silver*, being so very similar and congruous to each other, if once united, will not easily suffer a divulsion: And the parts of water, that were any wayes *heterogeneous*, being by *exantlation* or rarefaction exhausted, the remaining parts being also very similar, will not easily part neither. And the parts of the Glas being solid, are more difficultly disjoyn'd; and the water, being somewhat similar to both, is, as it were, a medium to unite both the *Glas* and the *Mercury* together. So that all three being united, and not very dissimilar, by means of this contact, if care be taken that the Tube in erecting be not shogged, the *Quick-silver* will remain suspended, notwithstanding its contrary endeavour of Gravity, a great height above its ordinary Station; but if this immediate Contact be removed, either by a meer separation of them one from another by the force of a shog, whereby the other becomes imbodyed between them, and licks up from the surface some agil parts, and so hurling them makes them air; or else by